

Claims

- 5 1. Directly controlled and proportionally adjustable  
pressure limiting valve having a valve seat (8)  
formed in a valve housing (2) and a valve cone (4)  
which define, in a regulating position of the valve  
cone (4), a throttle gap whereby an inlet port (A) is  
10 connected with an outlet port (T), the valve cone (4)  
being supported with radial play in a center-mounted  
armature (14) of a proportional solenoid (10),  
characterized by centered cardanic axial support of  
the valve cone (8) on the armature (14) and by a  
15 guide means (40) secured to the housing, that is  
axially located between the valve seat (8) and the  
armature (14) for the valve cone (4) and that is  
formed with less play than the armature-side radial  
play.
- 20 2. The seat valve in accordance with claim 1, wherein  
the axial support in the armature (14) is effected  
with the aid of a preferably press-fitted sphere  
(56).
- 25 3. The seat valve in accordance with claim 1 or 2,  
wherein the axial support is effected in a center  
range of the armature (14) when viewed in the axial  
direction.
- 30 4. The seat valve in accordance with claim 3, wherein  
the armature (14) has a blind bore (52) which extends  
into the center range, and on the bottom (54) of  
which the valve cone (4) is supported indirectly.
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5. The seat valve in accordance with claim 4, wherein the bottom (54) is provided with oblique surfaces (54).
- 5 6. Pressure limiting valve in accordance with any one of the preceding claims, wherein a blind bore (52) in the armature (14), into which the valve cone (4) plunges, is stepped, and wherein the sphere (56) is press-fitted in the narrower range of the blind bore  
10 (52), while the other range of the blind bore (52) receives a section (60) of the valve cone (4) that extends with a constant diameter from the armature (14) through the guide means (40) secured to the housing.
- 15 7. The seat valve in accordance with any one of claims 2 to 6, wherein the valve cone (4) has on the rear side a central end face recess with oblique surfaces (64) that are adapted to be taken into contact with the  
20 sphere (56).
8. The seat valve in accordance with any one of the preceding claims, wherein the armature (14) is penetrated by at least one throttle bore (50) whereby  
25 a valve cone-side armature chamber (46) is connected with a rearward armature chamber (48).
9. The seat valve in accordance with any one of the preceding claims, wherein the armature (14) is  
30 centrally mounted along its outer circumference through the intermediary of a foil (14).
10. The seat valve in accordance with any one of the preceding claims, wherein the valve cone (4) is  
35 floatingly received in the armature (14).

11. The seat valve in accordance with any one of the preceding claims, wherein the armature (14) has on its rear side a centering pin (66) for a regulating spring (16).